

ventral fin. Teeth very small, subhorizontal, in a single series. Cleft of the mouth oblique, rather wide, the maxillary extending to behind the eye; lower jaw prominent; eye very small. Ventral fins confluent; caudal arrow-shaped, nearly one-fifth of the total. Pectoral as long as the ventral, and half as long as the head. Upper parts grey, lateral and lower silvery; an ovate grey spot before each dorsal ray; caudal grey.

Four specimens of this fish have been procured for the British Museum. The largest of them is $9\frac{1}{2}$ inches long.

This is the most aberrant form of the genus *Amblyopus*; although closely allied to *A. broussonetii*, it differs in its more feeble dentition and in its larger scales. *A. broussonetii* has 11/16 vertebræ, *A. sagitta* 11/20. If the genus *Gobioides* of Lacépède be adopted, another must be created for *A. sagitta*, and the sections may be arranged as follows:—

AMBLYOPUS, Gthr.

A. Teeth in a band, with an outer series of stronger ones.

* More than twenty-five soft dorsal rays: *Amblyopus*, C. & V. East Indies.

* Less than twenty soft dorsal rays: *Gobioides*, Lacép. Peru and Guayaquil.

B. Teeth in a single series: *Tyntlastes*. California.

3. DESCRIPTIONS OF SOME NEW CORALS FROM MADEIRA.

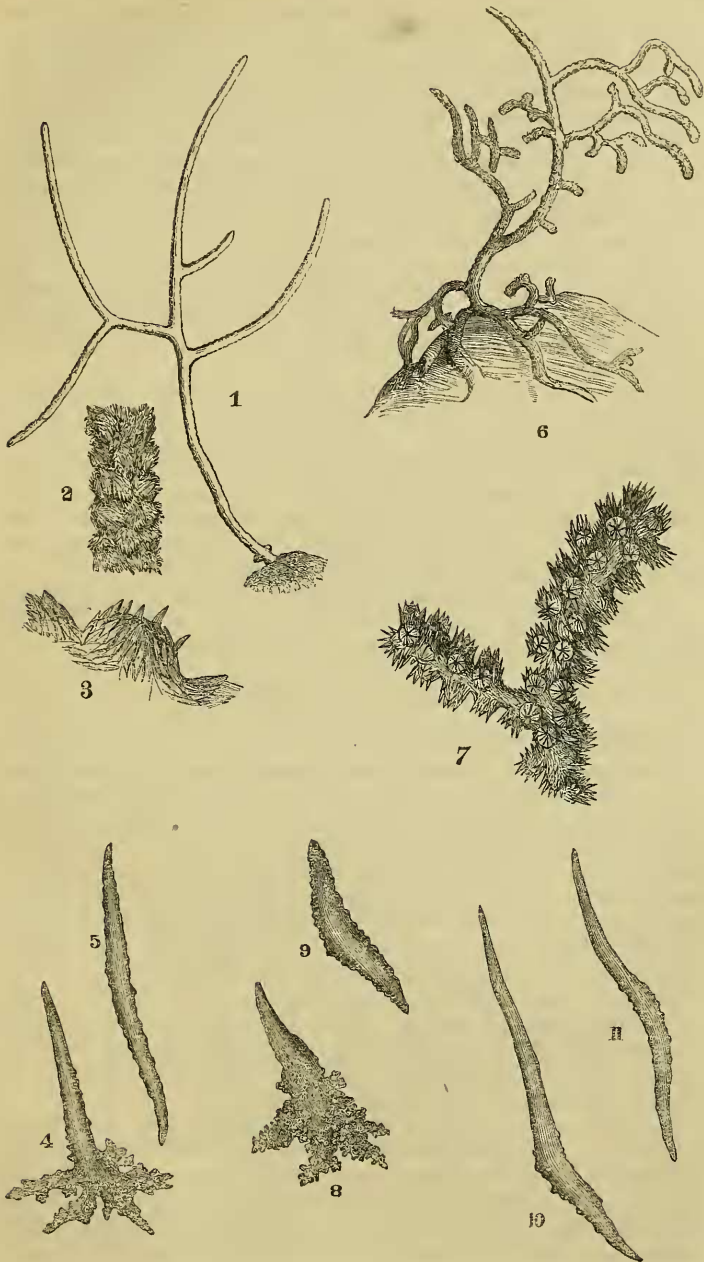
By JAMES YATE JOHNSON, COR. MEM. Z.S.

Fam. ACANTHOGORGIAE, J. E. Gray.

ACANTHOGORGIA ATLANTICA, sp. n.

Since the occurrence of a specimen of *Acanthogorgia grayi*, of which I laid a description before the Society last year (Proc. Z. S. 1861, p. 296), another form of the genus has been discovered. This was brought up from deep water at Madeira, having become entangled in a fisherman's line. As there are obvious distinctions from the two other species of this genus, I shall venture to describe it as new.

It is of a dark-brown colour, and is very sparingly branched in one plane. The base spreads out in thin branching sheets amongst small shells and fragments of stone which adhere to it. The stem and branches, with their closely packed cells, are cylindrical, the former not much thicker than the latter. The branches are rounded at their extremities. The cells are short, cylindrical, sessile, and so crowded on all sides of the stem that they conceal it from view; whilst in the two other species of this genus the cells are widely separated, and the bark is seen between them. When the polypidom is dry, a brown, slender, horny axis, without spinulæ, stands distinct from the bark, as in the other species. This axis, when softened and submitted under pressure to the microscope, is seen to



consist of fibres bearing a general similarity to those composing the axis of *Antipathes*. Round the orifice of each cell project large spicula, and smaller spicula strengthen the sides of the cells and the bark. The spicula are intermediate in character between those of *A. hirsuta* and *A. grayi*, being less slender than those of the first species, and less stout than those of the second. The great spicula round the mouth of the cell have their exposed portions spinulose or tuberculated (not smooth as in *A. hirsuta*); their bases are branched (as in *A. grayi*), and they are much less marked with the tubercles which roughen the bases of the last-named species so remarkably.

This species is distinguishable from the other two by the greater crowding of the cells, by the cells themselves being sessile and being therefore less prominent, by the paucity of the ramifications, and by the differences in the spicula already pointed out. In habit it is very distinct.

The specimen (which is now in the British Museum) has a height of 13 inches, and its branches have a spread of about 11 inches. The stem, with its cells, has a diameter of $3\frac{6}{10}$ of an inch, and the branches with their cells are only reduced to two-thirds of that diameter. Near the base are the stumps of two branches which have been broken off. Above, on one side, are two simple branches, and on the other a single forking branch. These three branches are placed not far apart near the middle of the main stem.

It ought to have been mentioned, with reference to the woodcuts of *A. grayi* and *A. hirsuta* (Proc. Z. S. 1861, p. 297), that the figures are considerably larger than the natural size.

Fam. STYLASTERIDÆ.

ALLOPORA MADERENSIS, sp. n.

Opake white. Much and closely branching nearly in one plane, the branches becoming gradually of less diameter, and sometimes anastomosing. They zigzag from cell to cell; and the surface is finely reticulato-striate, but is without any tubercles. The cells are oblong, sessile, and always placed transversely to the branch, upon one face of the plane. The terminating cells, with their pedicels, are trumpet-shaped, but with oblong mouths, which are much wider than the stalk below. The margin of each cell is elegantly notched with from twelve to sixteen notches, with laminæ between.

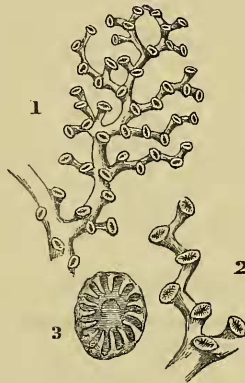
The dimensions of the single specimen that has occurred (now in the British Museum) were $3\frac{1}{2}$ inches high and $2\frac{1}{4}$ inches across. The base had been broken away, and the thickest part of the remaining stem was $\frac{1}{5}$ th of an inch in diameter. The longer axis of the terminal cells measured the twentieth of an inch.

The specimen was brought up by a long fishing-line on the coast of Madeira. Two examples of that curious patelliform shell the *Pedicularia sicula* were found seated on the branches. With respect to this circumstance, I may mention that Mr. S. P. Woodward has shown me a coral from the coast of Sicily, belonging to a totally distinct genus, with *Pediculariæ* upon it; and in the Coral Room

at the British Museum there is another coral with the same shell still adhering to it.

The present form, though at the first glance it seems to have a general resemblance to *A. flabelliformis*, is quite distinct from that species, having the cells much larger and transversely oblong, not round. Moreover, the zigzag character of the branches is much more marked. It may, however, be worth inquiry whether it may not be the *A. infundibulifera* of Lamarck.

A. maderensis appears to show that the genera *Stylaster* and *Al-*



lopora ought to be united; for though there are no “petites pointes” or “tubercules vésiculaires” upon this coral (M. Milne-Edwards giving this as one of the characters of *Stylaster*), yet the gemmation is alternate and distichal—the same writer saying of *Allopora* that its gemmation is “tout-à-fait irrégulière.”

DESCRIPTION OF THE WOODCUTS, pp. 195 and 197.

Acanthogorgia atlantica.

- Fig. 1. Outline of the entire specimen, on a reduced scale.
 Fig. 2. Portion of a branch, enlarged.
 Fig. 3. A cell more highly enlarged.
 Fig. 4. A spiculum from the edge of a cell.
 Fig. 5. A spiculum from the side of a cell.

Acanthogorgia grayi.

- Fig. 6. Outline of a portion of the coral, on a reduced scale.
 Fig. 7. A branch, enlarged, for comparison with fig. 2.
 Figs. 8, 9. Spicula from the edge and side of a cell.

Acanthogorgia hirsuta.

- Figs. 10, 11. Spicula from the edge and side of a cell.

Allopora maderensis.

- Fig. 1. A branch, with its ramuli, of the natural size.
 Fig. 2. A ramulus magnified.
 Fig. 3. A cell more highly magnified.